

DETAILED ACTION

1. This action is in response to the amendment filed on November 07, 2008. Claims 1-8, 10-17, 19 and 20 are pending and have been considered below.

EXAMINER'S AMENDMENT

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Keiko Ichiye on December 02, 2008.

The claims in the application are amended as follows:

In Claims:

- (1) In claim 1, line 4; insert – a – between “comprising” and “plurality”.
- (2) In claim 1; replace lines 6-9 by - **zero-padding the received signal in a time domain of the received signal with a plurality of zero-valued samples to yield a zero-padded signal, a number of the zero-valued samples calculated from a difference between a number of a plurality of Fourier transform bins and a number of the preamble symbols; -**.
- (3) In claim 10, line 5; insert – a – at the beginning of the line.
- (4) In claim 10; replace lines 7-10 by - **zero-pad the received signal in a time domain of the received signal with a plurality of zero-valued samples to yield**

a zero-padded signal, a number of the zero-valued samples calculated from a difference between a number of a plurality of Fourier transform bins and a number of the preamble symbols; and -.

(5) In claim 19, line 4; insert – a – between “comprising” and “plurality”.

(6) In claim 19; replace lines 6-9 by – **means for zero-padding the received signal in a time domain of the received signal with a plurality of zero-valued samples to yield a zero-padded signal, a number of the zero-valued samples calculated from a difference between a number of a plurality of Fourier transform bins and a number of the preamble symbols; -.**

(7) In claim 20, line 4; insert – a – between “comprising” and “plurality”.

(8) In claim 20; replace lines 8-11 by - **zero-padding the received signal in a time domain of the received signal with a plurality of zero-valued samples to yield a zero-padded signal, a number of the zero-valued samples calculated from a difference between a number of a plurality of Fourier transform bins and a number of the preamble symbols; -.**

Allowable Subject Matter

3. Claims 1-8, 10-17, 19 and 20 are allowed.
4. The following is an examiner's statement of reasons for allowance: The prior art of record Carleton et al. discloses a system and method for frequency offset estimation by zero padding the received signal in time domain based on difference of the Fourier transform bins and preamble or pilot symbols and take FFT to get frequency offset

estimate from maximum power of frequency domain signal. The Prior art doesn't disclose or teach that the frequency offset estimation is further comprises a numerically controlled oscillator for receiving frequency and phase offset estimates and a residual error for adjusting received signal according to frequency, phase offset estimates and a residual error correction. Other prior art references e.g. Churan (US 2004/0142660) discloses system and methods for frequency, phase offset estimation by zero padding the received signal and the taking FFT of zero padded signal (figure 23; paragraphs 0139-0140) for offset estimation based on magnitude of maximum power of signal; and Thesling et al. (US 2002/0118737) discloses system and methods in communication for frequency offset estimation where the received signal is zero padded (figure 6; paragraph 0044) and Fourier transformed to get freq. offset estimate, but these references fails to disclose the above mentioned claimed features, rendering them allowable if rewritten in independent form including all limitations of the base claim and any intervening claims..

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Jiang et al. (US 7,369,633) discloses a system and method for carrier synchronization where the frequency offset estimate is based on correlation of phase of the received signal.
- b. Liu et al. (US 2004/0184551) discloses a system and method timing compensation with frequency offset estimation.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to HIRDEPAL SINGH whose telephone number is (571) 270-1688. The examiner can normally be reached on Mon-Fri (Alternate Friday Off) 8:30AM-6:00PM EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shuwang Liu can be reached on 571-272-3036. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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